The Endeavour for Soldier System Interoperability

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Deputy Chairman TG/1

Context

- TG/1 in progress
- The system soldier
- The integrated fighting system
- TG/1 organization
- Summary

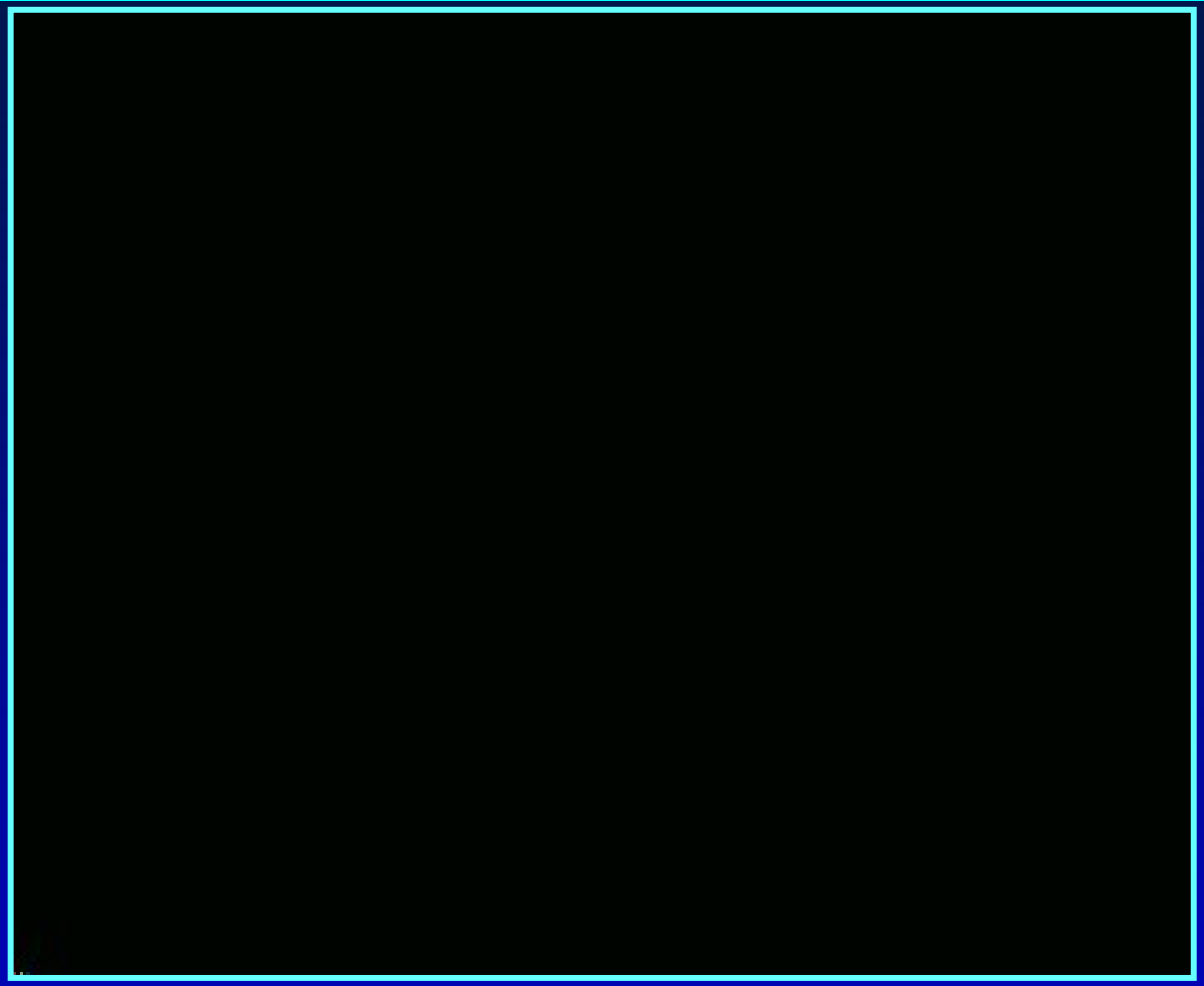
NATO Soldier 2000 Demonstration

- For Senior NATO Officials and Military
- Presentations
- Static Displays
- Live Firing Exercises
- Tactical Demonstrations
- From WG/3 to TG/1

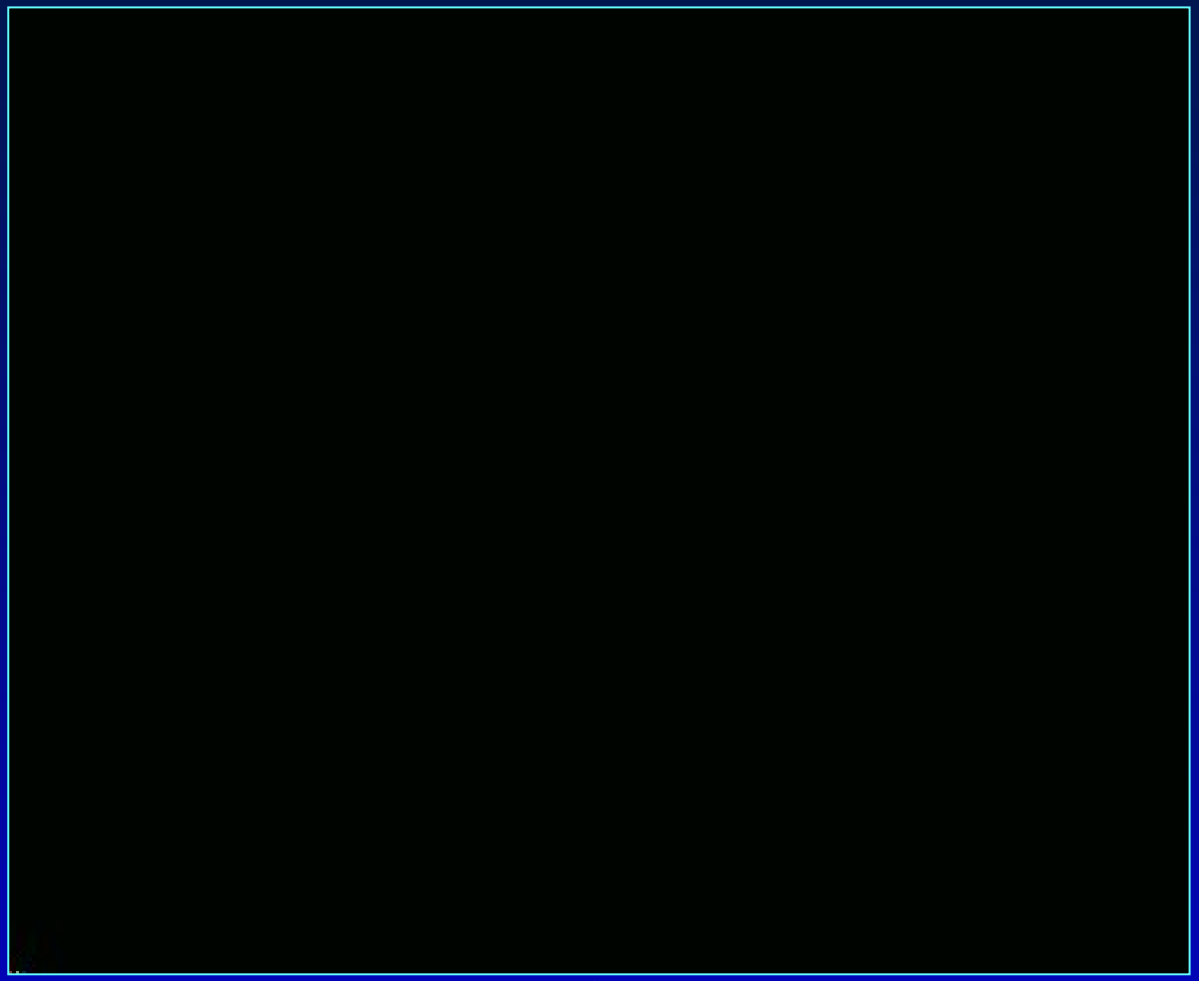
Bergen op Zoom The Netherlands June 2000

Topical Group 1 on Soldier System Interoperability

Firing Demonstration



Tactical Demonstration



The dismounted combat soldier today

Lessons Learned

The revolutionary transformation of modern military forces has not reduced the need for "boots on the ground". It is increasingly clear that in the complex ambiguous political and military environment of the 21st century, the nations will need modern ground forces capable of undertaking the full spectrum of military missions

Daniel Coure

Merrick Carey

(Lex Institute Arlington, VA)

Spectrums of operations

Domestic Support
- Disaster Relief
- Civil Support

Peace Operations
- Peace Building/Making
- Military to Military Contacts
- Arms Control
- Nation Assistance
- Peace Keeping
- Security Assistance

Limited Conflict
- Raids
- Strikes
- Insurgency & Counterinsurgency

Nuclear War
- Strategic Weapons
- Tactical Weapons

Environmental Operations

Humanitarian Assistance

Show of Force

NEO

Counter Drug

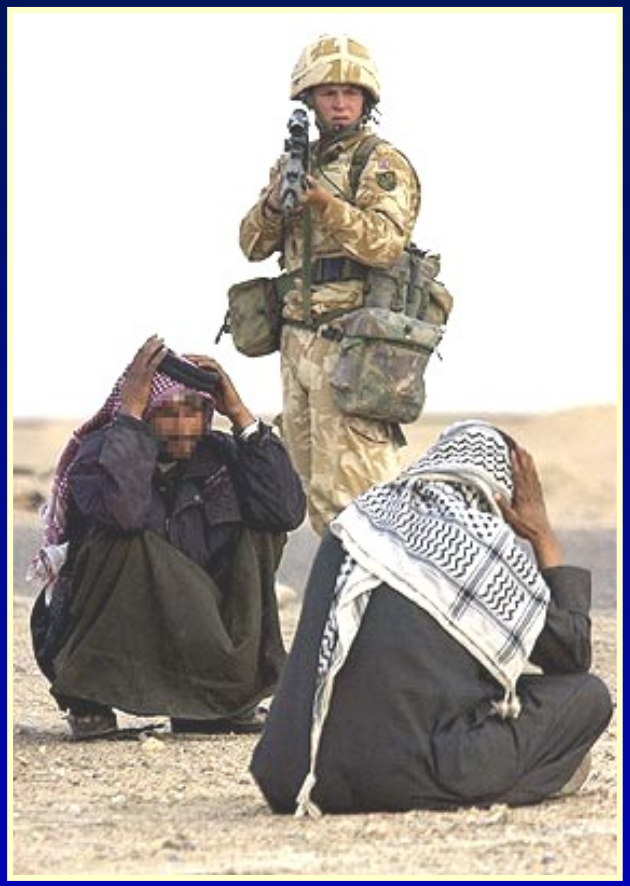
Sanctions Enforcement

Combatting Terrorism

Regional Conventional Conflict

Some examples

Afghanistan



Iraq

Bosnia

Mission

Ensure interoperability between future national soldier systems

Interoperability

With the growth of coalition warfare during the last two decades, interoperability has emerged as a

critical, but complex issue, fraught with great advantages and extremely difficult problems

NATO approach to interoperability

“Standardization, the development and implementation of concepts, doctrines, procedures and design to achieve and maintain the required levels of compatibility, interchangeability or commonality in the operational, procedural, materiel, technical and administrative field to attain interoperability”

Tasks

- Identify areas for standardization
- Explore potential to adopt common subsystems/modules/components
- Identify implications for NATO doctrine and training
- Coordinate the work with appropriate Land Groups and other NATO Bodies
- Where appropriate develop

The Soldier System

Integration of *every*thing the soldier

Wears
Carries
Consumes

for enhanced individual and collective (small unit) capability within their national command control structure

The Complexity of a Soldier System

- Night Vision
- Protective Eyewear
- Radio
- Computer
- Ballistic Protection
- Load Carrying
- Weapon System
- Gas Mask
- Environmental Clothing

Integrate "each" into a Soldier System

Areas for Interoperability

- C4I
- Lethality
- Mobility
- Survivability
- Sustainability

C4I

- Data transmission protocols
- Agreed levels of voice, text, graphic & video to effect C3
- Standard report format (small unit)
- Levels of filtering
- Common displays
- Common applications
- Common symbols

Lethality

- Interface devices and sight mounts
- Electrical connectors
- Sensor codes
- Ammunition
- Integration of the weapon into the soldier system

Mobility

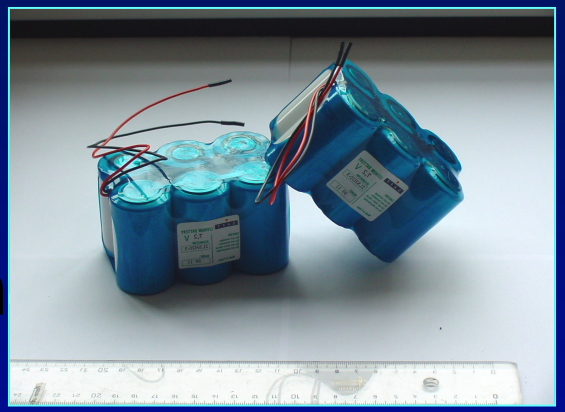
- GPS
- Digital Compass
- Reduced weight and vol of soldier's equipment
- Air Drop-able
- Urban zone effects

Survivability

- Security
- Day/Night Optic
- Combat ID
- Stealth technique
- Environmental protection

Sustainability

Operational information systems



- Embedded training
- Common military terms
- Organizational and comm
- Structure information on all nations
- Ability to share energy on the battlefield
- Ability to recharge from available sources

Experts teams - 1

Priority approach

- Power
- C4I
- Combat Identification
- Architecture
- Head Borne Systems
- Weapons

Products of TG/1

- **Product activities: STANAG's**
- **Other activities:**
  - ✓ **NATO documents**
  - ✓ **Exchange of information**
  - ✓ **To foster governmental and industrial interest in soldier modernisation activities**

Integrated Fighting System

Integrated Fighting System

- Increased lethality
- Soldier to Soldier Communications
- Digital reporting
- Enhanced Situational Awareness
- Modular design
- Mission tailor-able
- Opportunity for interoperability
- Links the individual soldier to the Digitized Battlefield
- Increased survivability

Foreseeable effects

- Real interoperability between national soldier systems with effects on
  - ✓ increase of operational acting
  - ✓ prevent of misunderstanding
  - ✓ prevent of fratricide
- Effects on tactics and drills
- Increase in scale with effects to the industrial interest and

Position of TG/1

Under the NATO Army Armaments Group

Topical Group 1 on Soldier System Interoperability

Relation with LG/3

LG/3 has, among other things, the responsibility to exchange information of studies and research about small arms and ammunition, identify areas of co-operation and promote standardization

Participating nations

- Australia
- Belgium
- Canada
- Czech Republic
- Denmark
- France
- Greece
- Germany
- Hungary
- Italy
- The Netherlands
- Norway
- Portugal
- Spain
- Turkey
- United Kingdom
- United States
- Austria
- Azerbaijan
- Finland
- Ireland
- Romania
- Slovakia
- Slovenia
- Sweden
- Switzerland
- Ukraine

Different focus on different timelines

Chairman

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Summary - 1

The mission of TG/1 is to ensure interoperability between future national soldier systems

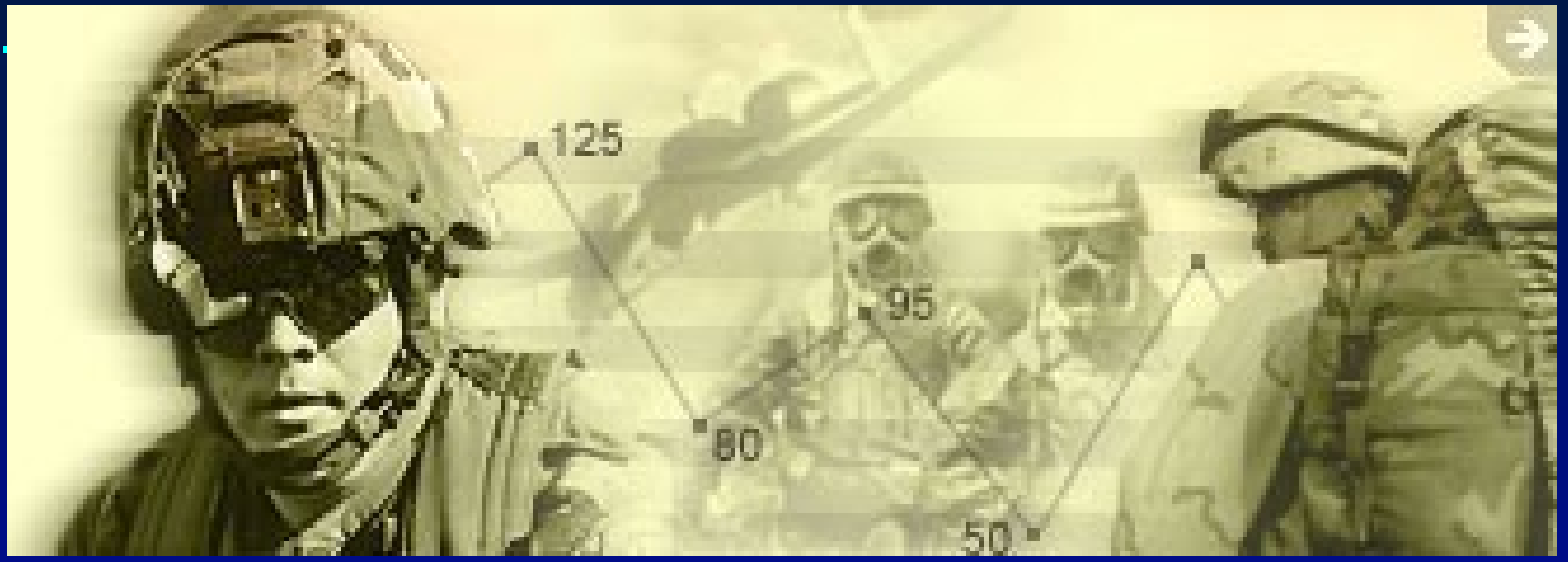
Summary - 2

Topical Group 1 has

the leadership role

to assure that

interoperability



“When the smoke cleared away, it was the man with the sword, or the crossbow, or the rifle who settles the final issue on the battlefield”

George C. Marshall